

# APPENDIX D

# PROJECT DESCRIPTION AND INITIAL STUDY

## LAKE DAVIS PIKE ERADICATION PROJECT

1. **Project Title**  
Lake Davis Pike Eradication Project
2. **Lead Agency Name and Address**  
California Department of Fish and Game  
Sacramento Valley and Central Sierra Region  
1701 Nimbus Road  
Rancho Cordova, CA 95670
3. **Contact Person and Phone Number**  
Dr. Ed Pert, Project Manager  
Lake Davis Pike Eradication Project  
California Department of Fish and Game  
Fisheries Program Branch  
1812 9<sup>th</sup> Street  
Sacramento, CA 95814  
(916) 445-3616
- Send Comments To:**  
Julie Cunningham  
California Department of Fish and Game  
Portola Field Office  
P.O. Box 1858  
Portola, CA 96122  
(530)832-4069  
northernpike@dfg.ca.gov
4. **Project Location**  
Lake Davis, its upstream tributaries and a portion of Big Grizzly Creek downstream of Grizzly Valley Dam. Location in Plumas County, California, near the City of Portola. See Attachment A, Figures 1 and 2.
5. **Project Sponsor's Name and Address**  
California Department of Fish and Game  
Sacramento Valley and Central Sierra Region  
1701 Nimbus Road  
Rancho Cordova, CA 95670
6. **General Plan Designation**  
Important Timber
7. **Zoning**  
General Forest.
8. **Description of Project**  
The proposed project includes the drawdown of Lake Davis to a volume of about 10,000-20,000 acre-feet and applying a liquid form of rotenone to eradicate northern pike from the reservoir and its tributaries. See Attachment A (Project Description).
9. **Surrounding Land Uses and Setting**  
The project is located near Portola, California, within the Plumas National Forest. Surrounding land uses include timber, grazing, and recreation. See Attachment A (Project Description).
10. **Other agencies whose approval is required**  
U.S. Fish and Wildlife Service  
U.S. Forest Service  
U.S. Army Corps of Engineers  
Central Valley Regional Water Quality Control Board  
California Department of Water Resources  
California Department of Health Services  
Northern Sierra Air Quality Management District  
California Department of Pesticide Regulation

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input checked="" type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology /Soils
<input checked="" type="checkbox"/> Hazards & Hazardous Materials	<input checked="" type="checkbox"/> Hydrology / Water Quality	<input checked="" type="checkbox"/> Land Use / Planning
<input type="checkbox"/> Mineral Resources	<input checked="" type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing
<input checked="" type="checkbox"/> Public Services	<input checked="" type="checkbox"/> Recreation	<input type="checkbox"/> Transportation/Traffic
<input type="checkbox"/> Utilities / Service Systems	<input checked="" type="checkbox"/> Mandatory Findings of Significance	

## DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.



I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a. Earlier Analysis Used. Identify and state where they are available for review.
  - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
  - a. the significance criteria or threshold, if any, used to evaluate each question; and
  - b. the mitigation measure identified, if any, to reduce the impact to less than significance

**Issues:**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	■			
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				■
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	■			
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				■

**I. AESTHETICS**

**Setting**

This area has very high aesthetic values, which are very important to private homeowners, residents, recreational visitors at Lake Davis and businesses providing goods and services to the tourist industry in the vicinity of Portola and eastern Plumas County. Most shoreline locations provide views of the lake and adjacent mountains. The lake is visible from picnic areas, campgrounds, boat ramps and private residences. County Road 126 (Lake Davis Road) and County Road 112 (Grizzly Road) are designated as scenic roads in the Plumas County General Plan (Plumas County 1987).

**Evaluation**

- a. The waterline of the reservoir would be drawn down below what is normally experienced for several months and possibly over one year, prior to the application of rotenone. If refill is not complete during the following winter or spring, the waterline would be below normal for an estimated one or two recreational seasons following the application of rotenone.

Other visual elements of the project include motor vehicles, boats, pesticide containers and application equipment, all of which would be removed from the project area except for the period of time needed to implement the project. The application of rotenone may result in a temporary white appearance to the reservoir.

If a containment structure is installed within the reservoir, portions may be visible from some locations. Such a structure may be visible for several months during reservoir drawdown.

Any potentially significant impacts will be analyzed in the EIR.

- b. The project area is not visible from a state scenic highway.
- c. The visual character and quality of the site would be impacted as described in item (a). Any potentially significant impacts will be analyzed in the EIR.
- d. Project implementation would not introduce any light or glare to the project area.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?



## II. AGRICULTURAL RESOURCES

### Setting

Timber, livestock, field crops (Alfalfa Hay, Meadow Hay, Grain Hay, Irrigated, Meadow and Range Pasture) and miscellaneous crops (Nursery, Apiary, Seed, Fruit, Potatoes, Grain, etc.) make up the majority of agriculture in Plumas County (Plumas-Sierra Counties 2003). With the exceptions of timber and cattle grazing, none of these activities occur within 0.5 mile of the project location. Timber stands in the vicinity of Lake Davis are periodically harvested. Livestock grazing takes place on National Forest lands adjacent to Lake Davis and its tributaries. From June 16<sup>th</sup> to September 15<sup>th</sup>, when Lake Davis is low, grazing is permitted up to the lake edge and below the high water mark.

### Evaluation

- a. The project involves no agricultural conversion.
- b. The project would not conflict with existing zoning for Lake Davis and adjacent lands. Lands zoned for agricultural uses adjacent to Lake Davis would not be substantially affected by project activities. The project will not occur on properties subject to a Williamson Act contract. The Environmental Protection Agency considers rotenone safe to use in the presence of cattle (USEPA 1981) (see Biological Resources Section IVa, page 11). However, any potential significant impacts will be analyzed in the EIR.
- c. No project activities would occur on designated farmland or cause changes that would lead to the conversion of farmland to non-agricultural use.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?



b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?



c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?



d) Expose sensitive receptors to substantial pollutant concentrations?



e) Create objectionable odors affecting a substantial number of people?



### III. AIR QUALITY

#### Setting

The Northern Sierra Air Quality Management District (NSAQMD) is within the Mountain Counties Air Basin as defined by the California Air Resources Board. The NSAQMD has jurisdiction over air quality issues in the Lake Davis area. Overall air quality in most areas of the district during 2004 was good, although the District had "non-attainment" status for ozone in 2004 due to air pollution traveling upwind from the Sacramento and Bay areas (NSAQMD 2005).

Air pollution is regulated by two types of standards: emission standards and ambient air quality standards. Ambient air quality standards are levels of air pollutants that if exceeded are considered unhealthy to breathe. An area is said to be in attainment if there have been no violations of an ambient air quality standard. If there have been violations of a standard, then the state or federal government designates the area "non-attainment" for that pollutant (CDFG 2002, Joe Fish, Deputy Pollution Patrol Officer, pers. comm. April 25, June 30 and July 6 2005). Emission standards are the levels of air pollutants that a source is allowed to release into the air.

#### Evaluation

- There is no air quality plan for the Lake Davis area (Joe Fish, Deputy Pollution Patrol Officer, pers. comm. April 25, June 30 and July 6 2005).
- In regards to air quality standards, the NSAQMD would conduct a preliminary screening analysis of potential air emissions from the project based on Material Safety Data Sheets for any commercially available and licensed forms of formulated rotenone, the amount of pesticide proposed for use, and the proposed duration of use (Joe Fish, Deputy Pollution Patrol Officer, pers. comm.). Although it is not anticipated that emission releases would exceed any air quality standards, potentially significant effects to air quality from emission

release will be analyzed in the EIR.

The NSAQMD is currently considered non-attainment for the state standard for particulate matter less than 10 microns diameter (PM10) and ozone. The use of formulated rotenone would not produce ozone or particulate matter, therefore no net increase of these air quality parameters would occur. Reservoir drawdown would expose additional areas of the reservoir bottom, potentially causing an increase in dust from dried exposed sediments. Any potentially significant impacts will be analyzed in the EIR.

- c. There is potential for an increase in particulate matter due to reservoir drawdown. See discussion for Item (b). Any potentially significant impacts will be analyzed in the EIR.
- d. Sensitive receptors are considered people (not people working on the project, as they will be protected with appropriate equipment) who are considered particularly sensitive to air quality conditions. Examples include small children, elderly people, or people with respiratory disorders. Potentially significant impacts will be analyzed in the EIR.
- e. Some rotenone formulations may have a smell (like the smell of mothballs) which is probably due to airborne concentrations (greater than 40 ppb) of naphthalene and methylnaphthalene, which are solvents in some rotenone formulations. This smell may last for several days, depending on air and water temperatures and wind directions. These relatively "heavy" organic compounds tend to sink (remain close to the ground) and move downwind (AFS 2000, CDPR 1998).

A total of 71 citizens reported experiencing symptoms of illness when Lake Davis was treated with rotenone in October 1997. Of these individuals, 60 reported smelling an odor. Descriptions of the odor included "chemical smell," "extremely powerful odor," and "mothball-like odor." The California Department of Pesticide Regulation found no health effects from this smell (CDPR 1998).

The proposed project may result in some odor due to solvents as described above or decaying fish prior to their collection and disposal. Potential air quality impacts due to odor will be analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	■			
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	■			
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	■			
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	■			
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				■
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				■

#### **IV. BIOLOGICAL RESOURCES**

##### ***Setting***

##### Vegetation

The plant life surrounding Lake Davis is characterized as an east side pine complex with scattered aspen stands. Vegetation is sagebrush and grassy meadow with scattered pine on the flat terrain near the reservoir shore, changing to a dense stand of Jeffrey pine, ponderosa pine and fir on the steeper slopes and ridges. Wet meadows surrounded by dense stands of lodgepole pine extend along the major tributary streams on the west side of the reservoir. Habitat types include grassy meadow, big sagebrush, eastside pine, lodgepole, and mixed

conifer (CDFG 1997). The lake shore below the high water mark varies in width depending on reservoir level, and is sparsely vegetated, mostly with annuals. At the high water level, there is a sparse scattering of willow (*Salix* spp.) at the edge of the reservoir.

Aquatic vegetation in the reservoir includes waterweed (*Elodea* spp.), coontail (*Ceratophyllum demersum*), pondweed (*Potamogeton* spp.), water buttercup (*Ranunculus aquatilis*), arum-leaved arrow-head (*Sagittaria cuneata*) and filamentous algae. Aquatic vegetation begins growing during the spring, in some years creating up to 6-foot thick mats of vegetation covering nearly 100 percent of the lake from mid summer through fall (CDFG 2001). Between the lake level and high-water mark, vegetation consists of sedges (*Carex* sp.) and forbs tolerant of inundation. Two moss species, *Meesia uliginosa* and *Botrychium minganense*, and a fern, *Pyrocoma lucida*, have been found in the project area.

Eleven special-status plants are known that could potentially occur in the vicinity of the project area: lens-pod milk-vetch (*Astragalus lentiformis*), Plumas ivesia (*Ivesia serioleuca*), Sierra Valley ivesia (*Ivesia aperta* var. *aperta*), Egg Lake monkey flower (*Mimulus pygmaeus*), sticky pyrrocoma (*Pyrocoma lucida*), Sheldon's sedge (*Carex sheldonii*), sweet marsh butterweed (*Senecio hydrophiloides*), Suksdorf's milk-vetch (*Astragalus pulsiferae* var. *suksdorfii*), Lemmon's milk-vetch (*Astragalus lemmoniae*), Pulsifer's milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*), and Quincy lupine (*Lupinus dalesiae*). See Attachment B for additional information on these plants.

### Wildlife

Wildlife species that occur in the Lake Davis basin typify those of eastside pine habitats (CDFG 1997). Two species of big game use the general area: mule deer (*Odocoileus hemionus*) and black bear (*Ursus americanus*). The entire shoreline constitutes deer summer range and is also used by bears and upland game species. Areas along the southern, eastern and northern margins of Lake Davis are designated as important deer migration routes in the Plumas County General Plan. The Doyle deer herd uses the project area and its 2005 population is estimated at 1,470 deer (CDFG 2005). Fawning grounds are located adjacent to and southwest of Big Grizzly Creek (Plumas National Forest Map 2005). Areas on Crocker Mountain and in the watershed below Lake Davis are designated as important deer habitat (Plumas County 1987). Mammal species include various species of bats, western gray and Douglas squirrels (*Sciurus griseus*, *Tamiasciurus douglassii*), cottontails (*Sylvilagus nuttallii*), hares (*Lepus* spp.), beavers (*Castor canadensis*), coyotes (*Canis latrans*), mountain lions (*Felis concolor*), shrews (*Sorex* spp.), moles (*Scapanus* spp.), mice, gophers (*Thomomys* spp.), and raccoons (*Procyon lotor*). Fourteen species of waterfowl use the seasonal and permanent wetlands for nesting in the spring and frequently concentrate in the area during fall migration (USFS 1988). The entire surface of Lake Davis provides waterfowl habitat (CDWR 1973). Bird species include hummingbirds, woodpeckers, flycatchers, jays, chickadees, warblers, sparrows, and finches, wild turkey (*Meleagris gallopavo*), and blue grouse (*Dendragapus obscurus*) (CDWR 1973). Willow flycatcher habitat occurs north of Lake Davis and on the western edge of Lake Davis (Plumas National Forest Map 2005). Birds of prey known to use the area include red-tailed hawks (*Buteo jamaicensis*), northern harriers (*Circus cyaneus*), American kestrels (*Falco sparverius*), golden eagles (*Aquila chrysaetos*), great-horned owls (*Bubo virginianus*), bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*) and northern goshawk (*Accipiter gentilis*) (CDWR 1973, Dennis Chester, Wildlife Biologist, pers. comm. 2001). Suitable habitat and Protected Activity Centers (PAC) for the northern goshawk and spotted owl occur in the project area (Plumas National Forest Map 2005). Great gray owl (*Strix nebulosa*) were detected in 2004 and 2005 (Russ Nickerson, Wildlife Biologist, pers. comm. 2005).

There is a Bald Eagle Management Area and Plan for the Lake Davis area (USFS 2004).

A preliminary assessment was made in 2002 of special-status wildlife species that have the potential to occur in the vicinity of Lake Davis. Detailed information is provided in Attachment C.

### Phytoplankton and Zooplankton

Phytoplankton, the microscopic single-cell algae that live in the water column, are the base of the Lake Davis food chain. They are grazed upon by zooplankton that make up much of the food base for trout and juvenile northern pike. Zooplankton found in Lake Davis include cladocerans (*Daphnia pulex*, *Diaphanosoma* spp., *Ceriodaphnia* spp. and *Bosmina* spp.), rotifers (*Asplancha* spp.), and copepods in the orders *Calanoida* and *Cyclopoida*.

### Aquatic Macro-Invertebrates

Aquatic macro-invertebrates form a varied community of herbivores, predators, and scavengers throughout Lake Davis and its surrounding waters. They include insects, mollusks, worms, and crustaceans. Many of the insects

emerge from the waters as adults and take to the land and air, where they mate to complete their life cycle. Most of these organisms are in turn preyed upon by many of the vertebrate predators (fish, amphibians, reptiles, birds, small mammals) in the lake and its near-by habitats.

Many species of aquatic insects are found in the reservoir and its tributary streams and springs. They include members of the orders Coleoptera (beetles), Diptera (flies, midges, mosquitoes, etc.), Ephemeroptera (mayflies), Hemiptera (water striders, water boatmen, etc.), Odonata (dragonflies and damselflies), Plecoptera (stoneflies) and Trichoptera (caddisflies) (CDFG 1997). In the lake, they utilize habitats ranging from the surface film, down through the lush near-shore aquatic plant beds, to the deep water benthic sediments. Bottom samples indicate the presence of a variety of midges including *Chironomus atrella* and *Chaoborus flavicans* (CDWR 1971).

Non-insect aquatic invertebrates include leeches (*Helobdella stagnalis* and *Dina* spp.), which are periodically abundant and may be found attached to waders' legs. Aquatic snails (*Physa* spp. and *Gyraulus* spp.) have also been collected, as have nonnative crayfishes (*Pastifasticus leniusculus*) (CDFG 1997).

### Amphibians and Reptiles

A visual encounter survey was conducted in 2004 to determine the species composition and distribution of amphibians and reptiles within the watershed. Western toads (*Bufo boreas*) and Pacific treefrogs (*Hyla regilla*) were the most common amphibian species detected during the survey. Long-toed salamanders (*Ambystoma macrodactylum*) and gartersnakes (*Thamnophis* spp.) were also detected (CDFG 2004). Additional amphibian surveys will be conducted in 2006.

### Fish

The rainbow trout (*Oncorhynchus mykiss*) fishery of Lake Davis is artificially maintained through intensive stocking programs by the California Department of Fish and Game. Nonnative northern pike (*Esox lucius*) is present in Lake Davis in increasing numbers and is the focus of the proposed project. Other species found in Lake Davis and its tributary streams include the following nonnative species: pumpkinseed sunfish (*Lepomis gibbosus*), golden shiner (*Notemigonus crysoleucas*), brown bullhead (*Ameiurus nebulosus*), brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*) and largemouth bass (*Micropterus salmoides*). All of these species have been introduced by humans. The species composition reflects survey results using eight types of sampling gear in 1999 through the present (CDFG 2003).

Big Grizzly Creek above and below Lake Davis is designated as important fish habitat in the County General Plan (Plumas County 1987).

### **Evaluation**

- a. Rotenone, the active ingredient in liquid rotenone formulations, is extremely toxic to fish. Rotenone is also toxic to other gill-breathing organisms such as aquatic invertebrate nymphs and larvae and some forms of amphibians. The reason for the high toxicity to gill-breathing organisms is that, when in water, rotenone is readily absorbed across the gill surface into the circulatory system of the organism (AFS 2000). Fish and other gilled aquatic organisms that cannot leave the water would be exposed to potentially fatal concentrations of rotenone.

Birds and mammals that eat dead fish and drink treated water would not be affected, because all animals have natural enzymes in the digestive tract that neutralize rotenone (AFS 2000). Cattle graze in the project area and may drink Lake Davis water. The USEPA considers rotenone safe to use in the presence of cattle (USEPA 1981).

During recent rotenone treatments in California, fish-eating birds and mammals were found foraging on dying and recently dead fish for several days following treatment (AFS 2000, CDFG 1994). Following this abundance of dead fish, a temporary reduction in food supplies for fish- or invertebrate-eating birds and mammals would result until the fish and invertebrates are restored.

The USFS Bald Eagle Management Area is located in the north and west sides of the reservoir (USFS 2004). USFWS will be consulted on potential impacts to the bald eagle. Potentially significant impacts to the bald eagle and other special status or sensitive species, and cattle will be analyzed in the EIR.

- b. Project activities would take place along shorelines, in tributaries, and within the reservoir. When water levels are low, the vegetated shoreline is well above the water line and project activities would not affect riparian vegetation. Reservoir drawdown may temporarily lower the water table which may affect riparian habitat. Any potentially significant impacts will be analyzed in the EIR.
- c. Reservoir drawdown may lower the water table in adjacent meadow areas. However it is not clear if the project would have substantial adverse effects on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. Application of rotenone is not considered "dredge and fill" under Section 404 of the Clean Water Act. The U.S. Army Corp of Engineers will be consulted and any potentially significant impacts will be analyzed in the EIR.
- d. The only native fish found in Lake Davis is the rainbow trout, stocked by the California Department of Fish and Game. Lower reservoir levels may change movement patterns of these fish. The project may include a containment structure or structures installed in Lake Davis to prevent the downstream movement of pike. Such structures would prevent the downstream movement of all fish species. Any potentially significant impacts will be analyzed in the EIR.

Lake Davis is used by migratory waterfowl. Lower than normal water levels during the winter and spring may reduce the surface area of the reservoir available. Waterfowl, such as Canada goose (*Branta canadensis*) use the shores surrounding Lake Davis as nesting sites. Any potentially significant impacts will be analyzed in the EIR.

- e. No such policies exist for the project area.
- f. No Habitat Conservation Plans or Natural Community Conservation Plans exist for the area.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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#### V. CULTURAL RESOURCES -- Would the project:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
- d) Disturb any human remains, including those interred outside of formal cemeteries?

	■			
	■			
				■
	■			

#### V. CULTURAL RESOURCES

##### Setting

Plumas County has a rich history of agriculture, gold mining, logging, railroads, and Native American habitation. According to the California Native Heritage Commission (CNHC), 521 Native Americans live in Plumas County (CNAHC 2005). This group is composed of primarily Maidu Indians.

Prehistoric sites occur at several shoreline locations within the project area. Some historic sites in the general area include the remains of a large railroad logging system dating to the 1920s – 1930s, a 1920s era sawmill site, and resources associated with early range activities. The Beckwourth Emigrant Trail also passes directly through the project area (NCC 2000). Locations of prehistoric and historic habitation along the original Grizzly Creek drainage within the project vicinity have been inundated by the reservoir since 1967, and while many are no longer accessible, sensitive archaeological sites will likely be exposed in the vicinity of the lake shore depending on lake level (Dan Elliott, District Archaeologist pers. comm. April and July, 2005). Some areas of the northern and western Lake Davis shoreline are designated as “areas with potential to yield as yet unrecorded historic and archaeological resources” in the Plumas County General Plan (Plumas County 1987).

### ***Evaluation***

- a. Historic and prehistoric resource sites exist within the project area. Some of these areas have been inundated at current reservoir levels, but could be exposed if the reservoir were drawn down. This could increase their vulnerability to human disturbance. Any potentially significant impacts to historic and prehistoric resource sites within the project area will be analyzed in the EIR. This will be done in cooperation with the U.S. Forest Service, the Native American community, the California Department of Water Resources and the California State Historic Preservation Office.
- b. See discussion for item (a). Any potentially significant impacts to historic and prehistoric resource sites within the project area will be analyzed in the EIR. This will be done in cooperation with the U.S. Forest Service, the Native American community, the California Department of Water Resources and the California State Historic Preservation Office.
- c. The geology of the reservoir bed (Grizzly Valley) is characterized as recent alluvium (Quaternary basin deposits) which is not typical for fossil resources (CDC 1992; Chester, Wildlife Biologist, pers. comm. 2001). No unique geological features are known, or noted on U.S. Geological Survey quadrangle sheets for Lake Davis (USGS 1972, 1994).
- d. See discussion for item (a). Any potentially significant impacts to historic and prehistoric resource sites within the project area will be analyzed in the EIR. This will be done in cooperation with the U.S. Forest Service, the Native American community, the California Department of Water Resources and the California State Historic Preservation Office.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				■
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				■
ii) Strong seismic ground shaking?				■
iii) Seismic-related ground failure, including liquefaction?				■
iv) Landslides?				■
b) Result in substantial soil erosion or the loss of topsoil?	■			
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	■			
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				■
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				■

## VI. GEOLOGY AND SOILS

### Setting

The geology of the reservoir bed (Grizzly Valley) is characterized as recent alluvium (Quaternary basin deposits) (CDC 1992). This overlays granodiorite, which is exposed near Grizzly Valley Dam (CDWR 1997).

The valley basin occupied by Lake Davis occupies a block-faulted valley basin with a geologic structure dominated by faulting that has a generally similar pattern of NW-SE oriented faults. There is a fault located north of the vicinity of Grizzly Valley Dam. It is considered to have the greatest importance with regard both to the structural origin of Grizzly Valley and probably also to influencing the flow of ground water toward the lake from Crocker Mountain and away from the lake down the alignment of lower Big Grizzly Creek. The fault structurally and topographically separates lower Grizzly Valley from Crocker Mountain (Oberdorfer, et al 1999).

The following information is from the soil survey of the Plumas National Forest Area (Churchill 1988). There are three map units of groups of soil types underlying Lake Davis, the surrounding area and several of its tributaries. These include map unit #3, the Sattley-Trojan Franktown group, described as moderately to well-drained soils ranging from nearly level to very steep slopes. Sattley soils are found on the steepest slopes of the three. The Trojan soils are found on more moderate slopes and like the Sattley, are deep, moderately well-drained, very gravelly loam soils that are underlain by moderately weathered volcanic breccia nearly. The Franktown soils range from nearly level to moderate slopes, on ridgetops and bouldery side slopes. This soil type is similar to the Sattley and Trojan, but is shallow.

Map unit # 10 is predominately Chaix-Wapi-Greenbluff, described as moderately deep to shallow and somewhat excessively drained soils on bouldery side slopes and ridgetops, ranging from gently sloping to very steep. The soils in this map unit are all highly erosive, with the Chaix and Wapi are coarse-loamy soils found on gently sloping to very steep slopes and the Greenbluff soils is a gravelly loamy sandy soil on slightly less steep ground.

Map unit #12 is predominantly Waca-Inville-Woodseye, described as moderately deep to deep, well drained loamy soil on gently sloping to very steep side slopes and terraces. The Waca type is a moderately deep, well to somewhat excessively drained loamy soil and is moderately erosive. It is found on strongly sloping to very steep side slopes and ridgetops. The Inville and Woodseye soils are both shallow, well drained very cobbly loam soils that are underlain by slightly weathered volcanic breccia. The Inville are found on gently sloping to steep side slopes and near ridgetops. Woodseye is on moderate to very steep south facing side slopes and ridgetops.

The Lake Davis shoreline area is designated as having moderate erosion potential in the Plumas County General Plan. The area along Big Grizzly Creek below the dam is designated as having high erosion potential.

### ***Evaluation***

- a. i-iv. The project would have no impact on earthquake faults, seismic related events or landslides.
- b. If the reservoir is drawn down, some downcutting may occur in sediments of the formerly inundated tributary streams, having localized impacts on erosion and soils. Any potentially significant impacts will be analyzed in the EIR.
- c. The project would not be located on geologically unstable units or soils.
- d. The project would not involve construction on expansive soils.
- e. The project would not involve the use of septic tanks or sewers.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	■			
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	■			
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				■
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				■
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				■
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				■
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				■
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				■

## **VII. HAZARDS AND HAZARDOUS MATERIALS**

### **Setting**

The project location is at Lake Davis and its tributaries. There are private residences, motels, stores, outfitter guides and shops in the vicinity of the reservoir. The USFS maintains three family-style campgrounds with 185 camp sites: Grizzly, Grasshopper Flat and Lightning Tree (CDFG 1997). The nearest school is C.Roy Carmichael Elementary School, about 4 miles from the project site. There are no private airstrips or public airports in the vicinity of the project location.

Lake Davis is developed as a domestic water supply. When the system was operating, water was drawn from the reservoir and routed to the Plumas County Flood Control District Water Treatment Plant where it was filtered, chlorinated and delivered to the City of Portola and the GLRID (CDFG 1997). The plant was taken offline in 1997, as it did not meet regulatory standards. The City of Portola and Plumas County are currently developing plans to build a new treatment plant and resume use of Lake Davis as a domestic water supply (Steering Committee 2005).

There is one water right to Lake Davis. The Plumas County Flood Control and Water Conservation District has a contract with the California Department of Water Resources for Lake Davis water which is diverted at the control building at Grizzly Valley Dam. This water has been used as a water supply for the City of Portola. There are two water rights to Big Grizzly Creek. The "Ramelli Diversion" (currently owned by the U.S. Forest Service) is located at Walton's Pond and is used for irrigation. The "Valverde Diversion" (currently owned by a private party) is located just below Walton's Pond and is also used for irrigation (Ronald Vanskoy, Water Services Supervisor pers. comm. 2004).

The forested areas around Lake Davis are designated as high fire hazard areas in the County General Plan (Plumas County 1987). The south end of the lake is designated as Wildland Urban Interface by the Plumas County Fire Safe Council Community Fire Plan (2005).

### **Evaluation**

- a. Rotenone is a restricted use pesticide due to its aquatic toxicity and acute toxicity when inhaled. As such, it may only be purchased and used by Certified Applicators or persons under their direct supervision. The Department of Pesticide Regulation regulates the procedures by which rotenone and other pesticides may be applied (CDPR 2001, UC 2000).

The aquatic toxicity of rotenone is due to the fact that it can move readily across the surface of the gills and into the circulatory system of the aquatic organism. It then moves directly to the cells and prevents their use of oxygen. Rotenone is toxic to fish and other gill-breathing organisms such as aquatic invertebrate nymphs and larvae and some forms of amphibians (AFS 2000).

Although the Environmental Protection Agency has determined that use of rotenone for fish control does not present a risk of unreasonable adverse effects to humans (USEPA 1981, 1989), any potentially significant impacts due to the use of the rotenone formulations, their transport and disposal will be analyzed in the EIR. The analysis will include potential hazards of the active ingredient as well as any solvents, emulsifiers and other ingredients. The analysis will include hazards due to direct toxicity and bioaccumulation, and will include an examination of the environmental fate of the compounds including their partitioning within the environment, and rates and mechanisms by which the compounds biodegrade. The analysis will include an examination of the human health and wildlife toxicology.

The analysis and development of mitigation measures will be developed in consultation with public health specialists and other knowledgeable personnel in the California Department of Health Services, Plumas County, the Central Valley Regional Water Quality Control Board, the Northern Sierra Air Quality Management District, and the Plumas County Agricultural Commissioner.

- b. The transportation and handling of rotenone poses a potential risk of accidental spillage in route to the project area or at the project site. A spill of the formulated rotenone product could result in contamination of soil, water, and/or public and private property (See section VIIa). This contamination could result in an increased risk to fish, wildlife, and the public (CDFG 1994).

Impacts due to accidental spill during transportation and handling could potentially be significant. Potentially significant impacts due to accidental spill will be analyzed in the EIR.

The potential exists for leakage or spill of fuel from boats in transport to the project area or while at the project site. This could result in contamination of soil, water, fish, wildlife and/or public and private property. Any potentially significant impacts will be analyzed in the EIR.

- c. No known schools are within a 0.25 mile of Lake Davis. C. Roy Carmichael Elementary School is located on Lake Davis Road about 4 miles from Lake Davis in the Big Grizzly Creek watershed. Haul routes would not pass within .25 mile of the school.
- d. The project site is not a hazardous materials site. The inactive Walker Mine is located 7 miles northwest of the reservoir in a different watershed.
- e. The project site is not within an airport use plan and is not within 2 miles of an airport.
- f. The project site is not within the vicinity of a known private airstrip.
- g. The project would not interfere with emergency response or evacuation plans for the area.
- h. The southern end of the project area is in the Wildland Urban Interface (WUI). Since the activities of the project will largely be restricted to the lake's surface, developed roads and boat ramps, the likelihood of activities to start a wildfire or effect suppression efforts is low. Any potentially significant impacts will be analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	■			
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	■			
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	■			
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				■
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	■			
f) Otherwise substantially degrade water quality?	■			
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				■
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				■
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	■			
j) Inundation by seiche, tsunami, or mudflow?				■

## **VIII. HYDROLOGY AND WATER QUALITY**

### **Setting**

Lake Davis impounds Big Grizzly Creek in the area that was formerly Grizzly Valley, where Freeman and Big Grizzly Creeks converge. Freeman, Cow and Big Grizzly creeks flow into Lake Davis year round. Numerous other seasonal creeks flow into the reservoir. Big Grizzly Creek converges with the Middle Fork Feather River about seven miles downstream of Grizzly Valley Dam. There is one impoundment on Big Grizzly Creek below Grizzly Valley Dam, at the ice pond dam. The pond behind this dam is currently used for summer camp recreation.

Creek flows are established by memorandum of agreement (MOA) between the California Department of Water Resources, the California Department of Fish and Game and the U.S. Forest Service. This MOA stipulates that minimum releases will be determined annually on May 1, and will be dependent upon actual or anticipated volume of Lake Davis during the May-June Period. Overall minimum release to Big Grizzly Creek (regardless of reservoir volume) is 10 cubic feet per second (CSWRCB 1994).

There are numerous wells in the Big Grizzly Creek watershed south of Lake Davis. The Grizzly Lake Resort Improvement District well serves about 200 customers. The Plumas County Department of Environmental Health currently has about 80 people enrolled in its annual well testing program, which was put in place in 1999 to determine if any constituents from the rotenone treatment in 1997 were present in groundwater over a 10-year period. Not all wells in the area are in the program, and new housing has been constructed since the plan was put in place.

The Forest Service currently operates one water system that supplies Grasshopper Flat and Grizzly Campgrounds and Honker Cove Boat Ramp. A well is located across the county road from Honker Cove Boat Ramp. Water is pumped out of a well and into a 20,000 gallon holding tank. Gravity is used to supply the campgrounds with water. A new well and 10,000 gallon holding tank is scheduled for installation in 2005 at Lightning Tree Campground. This will provide water for the campground and the boat ramp.

The aquifer in the vicinity of Lake Davis does not appear to be confined and the hydraulic gradient generally follows the topography. This means that the lake receives water from the surrounding ground water, not vice versa. Because the ground water to the south and east is higher than lake level, water cannot flow uphill from the lake to these locations (DWR 1997, Oberdorfer, et al 1999).

An exception to this flow regime exists below the dam where water levels in wells are lower than the water surface in Lake Davis. In this region there is a "small but real" potential driving force for flow of water out of the lake and into drinking water aquifers. However, higher water levels along the eastern side of the valley indicate that the bulk of the water flowing to wells in this area most likely comes down from Crocker Mountain (Oberdorfer, et al 1999).

## ***Evaluation***

- a. The proposed project would involve the application of a liquid formulation of the piscicide rotenone to Lake Davis and its tributary streams. The piscicide would be applied according to label specifications developed by the California Department of Pesticide Regulation and the Environmental Protection Agency. The project would require obtaining a National Pollutant Discharge Elimination System permit from the Regional Water Quality Control Board (Ronald S. Dykstra, Water Resources Engineer pers. comm. June 2005).

The application of the rotenone formulation may result in concentrations of some constituents that would temporarily exceed water quality standards. In addition, vegetation decay promoted by reservoir drawdown and the decay of dead fish from the rotenone application may result in a temporary reduction in dissolved oxygen concentrations (CDFG 1997).

Implementation of the proposed project would include a neutralization plan. Several methods of neutralization will be analyzed in the EIR including temporarily closing dam outlet valves and treating or filtering Grizzly Dam outflow. Depending on the method selected to treat Grizzly Dam outflow, the project could result in the temporary elevation of formulation constituent concentrations downstream of Grizzly Dam (CDFG 1997).

All potentially significant impacts to both surface and groundwater quality will be analyzed in the EIR.

- b. The project would involve the drawdown of Lake Davis to 10,000-20,000 acre-feet, which is 16 to 23 feet below its average September 1 level of about 5,768 feet above sea level (volume 59,000 acre-feet). According to one study, "there is a small but real" possibility of some hydraulic connectivity between Lake Davis and wells downstream of Grizzly Dam along Grizzly Road (Oberdorfer, et al 2003). Most of the aquifer is probably recharged by the aquifer underlying Crocker Mountain and through snowpack and rainfall (DWR 1997, Oberdorfer, et al 1999, LLNL 2003). Therefore, although it is not expected that reservoir drawdown would result in changes to groundwater supplies or interfere with recharge, any potentially significant impacts to groundwater supplies or recharge will be analyzed in the EIR.
- c. Lowering the reservoir level could potentially increase erosion in tributary streams with active headcuts. Any potentially significant impacts will be analyzed in the EIR.

- d. The project would not alter drainage patterns or affect surface runoff.
- e. Drawdown of Lake Davis to 10,000-20,000 acre-feet by September 1 would entail the release of about 170 to 190 cubic feet per second over a several month period. This would result in flows in Big Grizzly Creek between Grizzly Valley Dam and its confluence with the Middle Fork that are higher than average, particularly during the summer months. The California Department of Water Resources releases comparable flows during the winter months while managing Lake Davis water levels. Soil erosion and cutting of banks may occur with the increased flows. Any potentially significant impacts will be analyzed in the EIR.
- f. The above discussion outlines all potential impacts to water quality. Any potentially significant impacts will be analyzed in the EIR.
- g. The project would not place any existing or new housing within a flood hazard area.
- h. The project does not include the installation of structures within any 100-year flood hazard areas.
- i. Drawdown of Lake Davis would entail increased releases from Grizzly Valley Dam as described in item (e) above. Any potentially significant impacts will be analyzed in the EIR.
- j. The project would not result in inundation by seiche, tsunami, or mudflow.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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IX. LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?



b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?



c) Conflict with any applicable habitat conservation plan or natural community conservation plan?



## IX. LAND USE PLANNING

### Setting

Lake Davis is within the Plumas National Forest. The Plumas National Forest Land and Resource Management Plan directs the management of the forest in order to guide the efficient use and protection of forest resources, fulfill legislative requirements, and balance local, regional, and national needs (USFS 1988). The area immediately surrounding Lake Davis is zoned for recreation. The southern portion of the lake has a WUI and may be partially zoned residential and industrial. The northern portion is within the U.S. Forest Service Bald Eagle Management Area. The forest around Lake Davis is zoned "general forest" and has a General Plan Designation of "Important Timber" (Plumas County 1987). The Plumas County General Plan designates Lake Davis as a "special water area," since it has been developed for domestic water use (Plumas County 1987). General Plan land use

designations for the Big Grizzly Creek watershed below Lake Davis include rural, rural (agricultural buffer), suburban, and secondary suburban. Activities at the lake must therefore not conflict with this use (John McMorrow, Planning Director, pers. comm. 2001).

### **Evaluation**

- a. The project would be located on the edge of a community, and would be temporary in nature, and would not physically divide an established community.
- b. The Plumas County General Plan designates Lake Davis as a “special water area,” since it has been developed for domestic water use (Plumas County 1987). Activities at the lake must therefore not conflict with this use (John McMorrow, Planning Director, pers. comm. 2001). In addition, since Lake Davis has been developed for drinking water, the California Department of Health Services (DHS) must approve use of any chemicals within the reservoir. Any potentially significant impacts will be analyzed in the EIR.

Designated as an “Important Timber Area” interspersed with areas designated “Timberland Production Zone,” logging activities frequently occur in the vicinity of the project. During the spring months the USFS does not permit logging contractors to begin work until roads are sufficiently dry (Monalisa Cole, DFG Lieutenant, pers. comm. 2001). CDFG would coordinate with the Plumas National Forest to ensure that the project would not conflict with or significantly affect timber operations on lands adjacent to the project area.

- c. There are no habitat conservation plans (HCPs) or natural community conservation plans (NCCPs) in the vicinity of the project area.

<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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X. MINERAL RESOURCES -- Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?



## **X. MINERAL RESOURCES**

### **Setting**

Plumas County was one of the significant copper producing areas in California, until approximately 1913. Two mines in Plumas County are known to produce a number of rare minerals, although they are not commercially mined. The Merdock mine produces clinoclase, cornwallite, and ferrimolybdate, among others and the California-Engel mine produces cyanotrichite and stilbite (Dunning and Cooper 2005).

### **Evaluation**

- a. There are no mineral resources shown on the USGS geologic map in the area of Lake Davis that would be impacted by the project (National Atlas 2005); therefore, no loss of availability would occur.
- b. No recovery sites are within 20 miles of Lake Davis; therefore, no loss of availability would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. NOISE B Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	■			
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				■
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				■
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			■	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				■
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				■

## ***XI. NOISE***

### ***Setting***

The Lake Davis area is rural and generally quiet, punctuated by sounds generated by recreation and timber harvesting activities, wildlife, and seasonal weather. Sounds from human activities include motor vehicle operations (e.g., automobiles and trucks, motorcycles, snowmobiles, and power boats), electrical power generators, chainsaws, and firearms (e.g., rifles and shotguns). Seasonal weather sounds include wind and thunder. The amount and incidence of noise varies with changes in access to the area and hunting seasons, yet intermittent noise is present throughout the year and at all locations within the project area. There are noise standards set for particular times of the year in the Bald Eagle Management Area Plan.

### ***Evaluation***

- a. Some increase in noise levels may occur during project implementation, particularly if helicopters are used. There are no human sensitive receptors in residence or constant presence within the project area. The project would not expose people to ambient noise levels greater than those allowed by established standards or ordinances. However, there are noise standards established in the Bald Eagle Management Area Plan. There may also be standards set for great gray owl and goshawk. The USFWS and USFS will be consulted

regarding noise standards and ordinances in relation to wildlife. Any potentially significant impacts will be analyzed in the EIR.

- b. The project would not generate substantial groundborne vibration or noise due to sound pressure attenuation within the water column.
- c. The project would not result in a permanent increase in ambient noise levels within the project area.
- d. If rotenone will be applied by low flying aircraft, a temporary increase in ambient noise levels will occur in project area. Although it is not anticipated the temporary increase will be a significant impact, it will be analyzed in the EIR.
- e. The project area is not within two miles of a public airport.
- f. The project area is not within the vicinity of a private airstrip.

<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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**XII. POPULATION AND HOUSING -- Would the project:**

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?



**XII. POPULATION AND HOUSING**

***Setting***

There are no permanent residences within or immediately adjacent to the project area, although many permanent residences occur on both Lake Davis and Big Grizzly Road as close as less than one half mile from the reservoir. The transient population consists of public resource management staff, timber harvesting personnel, hunters, anglers, and other recreational visitors. There are 185 seasonal camping sites at the three reservoir campgrounds.

The full-time population of nearby Portola is estimated at 2,300 persons. Increases in the transient population of Portola and the project area are anticipated during periods of project implementation. A temporary forest closure would temporarily reduce the transient recreational population at the reservoir.

***Evaluation***

- a. The project will not induce population growth in the area.

- b. There are no housing units in the project area that would be affected by the proposal.
- c. The project would not displace substantial numbers of people or cause the need to construct replacement housing elsewhere.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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### XIII. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?			■
Police protection?			■
Schools?			■
Parks?	■		
Other public facilities?	■		

### ***XIII. PUBLIC SERVICES***

#### ***Setting***

Public services are provided in the area of the project site by a variety of agencies including the City of Portola, County of Plumas and USFS.

The USFS Recreation Area includes three family campgrounds: Grasshopper Flat, Grizzly and Lightning Tree, with a total of 186 family sites; an undeveloped overflow camping area; four boat launches, Honker Cove, Mallard Cove, Lightning Tree and Camp 5; nine fishing access sites; one dump station; and an information kiosk.

Lake Davis is developed as a domestic water supply. When the system was operating, water was drawn from the reservoir and routed to the Plumas County Flood Control District Water Treatment Plant where it was filtered, chlorinated and delivered to the City of Portola and the GLRID (CDFG 1997). The plant was taken offline in 1997, as it did not meet regulatory standards, The City of Portola and Plumas County are currently developing plans to build a new treatment plant and resume use of Lake Davis as a domestic water supply (Steering Committee 2005).

#### ***Evaluation***

##### a. Fire protection

The project would not result in substantial adverse physical impacts associated with construction of new or physically altered facilities in order to maintain service ratios, response times, or other performance objectives for fire protection services. DFG would coordinate with fire protection services personnel to maintain acceptable response times and other performance objectives.

##### Police protection

The project would not result in substantial adverse physical impacts associated with construction of new or physically altered facilities in order to maintain service ratios, response times, or other performance objectives for police protection services. DFG would coordinate with Plumas County Sheriff's Office to maintain

acceptable response times and other performance objectives.

Schools

The project would not result in substantial adverse physical impacts associated with construction of new or physically altered facilities in order to maintain service ratios, response times, or other performance objectives for schools.

Parks

Lake Davis recreational facilities may be closed during application of the rotenone, which may result in increased use of other recreational facilities in the area. Any potentially significant impact on parks will be analyzed in the EIR.

Other Public Facilities

Any potentially significant impacts to any water treatment facilities or other public facilities will be analyzed in the EIR. The analysis will be conducted in consultation with the California Department of Health Services, which must approve the use of rotenone in any drinking water supply, and with the Plumas County Department of Environmental Health.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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XIV. RECREATION --

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

**XIV. RECREATION**

***Setting***

Lake Davis is a major recreation area on the Plumas National Forest. The lake and its facilities are very popular with recreation visitors and local residents. The lake is managed for water-oriented recreation and is well known throughout California for its excellent fishing opportunities.

The Recreation Area includes three family campgrounds: Grasshopper Flat, Grizzly and Lightning Tree, with a total of 186 family sites; an undeveloped overflow camping area; four boat launches, Honker Cove, Mallard Cove, Lightning Tree and Camp 5; nine fishing access sites; one dump station; and an information kiosk.

Recreation opportunities include camping, hiking, boating, fishing, swimming, biking, wildlife watching and picnicking. Winter activities include ice fishing, cross-country skiing, snowshoeing, ice-skating, snowmobiling and snow play.

The California Department of Fish and Game maintains the rainbow trout fishery through an annual spring stocking program. Because of the presence of the northern pike, only catchable size trout are being stocked.

The campgrounds are operated and maintained by a concessionaire, Thousand Trails Management Services Inc. under permit with the USFS. Campground use was 28,128 visitor-days in 2004 (Judy Schaber, USFS pers.comm. August 2005). Approximately 260,000 visitors come to Lake Davis each year.

Deer, game birds, waterfowl, and bear are hunted in the fall. It is estimated that during the month of October, up to 150 hunters utilize the Lake Davis area (Dan Moraga, CDFG Warden, pers. comm. 2001). Hunting season for coyote remains open year round.

## **Evaluation**

- a. U.S. Forest Service campgrounds at Lake Davis may be closed temporarily during the draw down of the lake and during treatment. Even if facilities were to remain open during reservoir drawdown, many people may choose not to come to Lake Davis. This could result in an increased use of other existing recreation facilities. It is anticipated that Frenchman Lake, Antelope Lake, Lakes Basin and the Wild and Scenic Middle Fork of the Feather River would receive the majority of this impact. Currently Frenchman Lake exceeds capacity almost every weekend; this situation may be exacerbated by a temporary Lake Davis closure. Any potentially significant impacts will be analyzed in the EIR.
- b. Visitors would have to use neighboring campgrounds and recreational facilities during the temporary closure of the lake facilities and campgrounds. Potentially significant impacts will be analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			■	
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?			■	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			■	
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				■
e) Result in inadequate emergency access?				■
f) Result in inadequate parking capacity?				■
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				■

## ***XV. TRANSPORTATION AND TRAFFIC***

### ***Setting***

Access to the Lake Davis area from State Route 70 is on West Street and then Lake Davis Road from the City of Portola, or along Grizzly Road west of Beckwourth. Grizzly Road (County Road 112) continues along the east shore of the lake, providing access to boat launch facilities, including Lightning Tree Boat Ramp, Fairview Point and Mosquito Slough Fishing Access. At the north end of the lake the road becomes unpaved and continues over the mountain ridge into Genessee Valley. Unpaved Forest Service Road 24N10 runs north on the west side of the reservoir to the intersection with County Road 112 (See Project Description, Attachment A, Figure 2). A gravel Forest Service road at the north end of the reservoir extends over Bagley Pass to Red Clover Valley.

### ***Impacts***

- a. The project would likely result in temporary increases of traffic to and from Lake Davis immediately before, during and immediately after project implementation. It is not anticipated that the level of traffic would be substantial in relation to the existing traffic.

- b. Plumas County does not have a congestion management agency. An increase in traffic on access roads to and around Lake Davis may increase prior to and during rotenone application. This increase will be offset by reduction in traffic due to a temporary forest closure that would be implemented during rotenone application. Although it is not anticipated that this will be a significant impact, it would be analyzed in the EIR.
- c. The project description includes the possibility of using a helicopter during rotenone applications. This would not result in a significant change in air traffic.
- d. The project would not result in the alteration of existing roads or uses that are incompatible with existing roads.
- e. The project would not affect emergency access; the CDFG and USFS would coordinate with emergency agencies during forest closure.
- f. Adequate parking would be available for the limited number of vehicles to be used in the project.
- g. The project would not influence or affect alternative transportation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS B				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				■
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				■
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				■
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				■
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project=s projected demand in addition to the provider=s existing commitments?				■
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			■	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				■

## ***XVI. UTILITIES AND SERVICE SYSTEMS***

### ***Setting***

The Plumas-Sierra Rural Electric Cooperative and Sierra Pacific Power Company supply the City of Portola and residences along Lake Davis and Grizzly Roads with electricity, satellite television, and internet services.

As described under Public Services, Lake Davis is developed as a domestic water supply for the City of Portola and the GLRID, although currently neither entity is using the water pending improvements to the treatment plant. GLRID serves homes in the Delleker area (west of Portola) as well as residences along Grizzly Road.

There are numerous wells in the Lake Davis area. See the Hydrology and Water Quality Section VIII, page 19 for a description.

### ***Evaluation***

- a. The project would not involve or affect wastewater. Therefore, wastewater treatment requirements would not be implicated. Water quality issues and Regional Water Quality Control Board requirements are discussed in Hydrology/Water Quality Section VIII.
- b. The project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.
- c. The project would have no influence on storm water conveyance or treatment.
- d. The project would not require a water supply.
- e. The project would not be served by a wastewater treatment provider.
- f. After project implementation, fish carcasses would be collected and taken to an appropriately permitted facility for sanitary disposal.
- g. Project would be carried out in compliance with federal, state, and local statutes and regulations related to solid waste.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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## XVII. MANDATORY FINDINGS OF SIGNIFICANCE --

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?



b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively Considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?



c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?



## **XVII. MANDATORY FINDINGS OF SIGNIFICANCE**

Section 15065 of the California Environmental Quality Act Guidelines requires the Lead Agency, the Department of Fish & Game to determine whether the proposed project may have a significant effect on the environment, which would require the preparation of an Environmental Impact Report. The analysis presented in this Initial Study was designed to assess the potential for, and probable severity of, environmental impacts, with particular attention to those issues that are of special concern to people in the local community or to agencies responsible for resources affected by the project. An Environmental Impact Report will be prepared that will analyze areas where this analysis determined that there was the potential for significant environmental impacts.

### ***Evaluation***

- As described above, the proposed project would involve the application of liquid rotenone to Lake Davis, to eradicate northern pike. Because rotenone does not target pike specifically, but is toxic to other gill-breathing organisms, it is expected that this project would have a potentially significant impact on the aquatic ecosystem within Lake Davis and its tributaries. Rotenone would temporarily reduce the amount of fish and aquatic invertebrates available as prey to some birds and mammals in the project area. Any potential significant impacts will be analyzed in the EIR.
- The project may have impacts that are individually limited, but cumulatively considerable. Lake Davis was treated with rotenone in 1997 for Pike eradication. Cumulative impacts of the project or other current or probable future projects in the area to biological, environmental, recreational and water quality resources for subsequent applications will be analyzed in the EIR.
- The project may have environmental effects which would cause substantial adverse effects on human beings. Potential adverse effects that were identified in the Initial Study are related to: Aesthetics (Section 1a), Air Quality (Section 2b-d), Hazard Materials (Section VII a-c), Water Quality (Section VII a,b,e,f,i), Noise (Section XI a), Public Services (Section XIII) and Recreation (XIV a,b). Any potentially significant effects will be analyzed in the EIR.

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# **Initial Study Attachment A**

## **Lake Davis Pike Eradication Project**

### **Project Description**

#### **1.1 INTRODUCTION**

The California Department of Fish and Game (CDFG) proposes to eradicate northern pike, *Esox lucius*, from Lake Davis and its tributaries, Plumas County. This document describes the purpose and need for the project, project objectives, a summary of project components, a description of proposed alternatives, and potential environmental impacts of the project.

Northern pike (pike) (and all members of the Family Esocidae) are restricted in California and it is unlawful to import, transport, or possess live animals listed in Section 671 of Title 14 California Code of Regulations except under permit issued by CDFG.

The Legislature has declared that the protection and conservation of fish is of the utmost public interest. Several sections of the California Fish and Game Code (FGC), including but not limited to the following, 1700, 2118, 2119, 5501, and 15500 to 15505 and Title 14 of the California Code of Regulations (CCR), 5.51, 236, 238, 238.5, 671, mandate the management of California fisheries. In some instances, CDFG uses chemicals (piscicides) to manage fisheries in California. This project is designed to help protect the fishery resources of the state by eradicating pike from Lake Davis and its tributaries.

#### **1.2 PURPOSE AND NEED**

Pike are a nonnative invasive fish species illegally introduced to California. Pike can seriously impact aquatic ecosystems by preying heavily on other fish species. Experience in Alaska (see the following web site for additional information -

<http://www.sf.adfg.state.ak.us/region2/areas/anch/html/pikepage.stm>) and elsewhere suggests that where habitat conditions are favorable, introduced pike have the potential to cause irreversible negative environmental impacts. Pike can become the dominant fish species, often to the near total exclusion of native fish species. Portions of the Feather River, Sacramento River, and the Sacramento-San Joaquin Delta, as well as many aquatic environments in other California watersheds, match the preferred habitat of the pike in terms of temperature, aquatic vegetation, current speed and other features.



The geographical extent of pike in California is thought to be limited to Lake Davis and its tributary streams. Located in Plumas County, Lake Davis is a reservoir of the State Water Project on Big Grizzly Creek (Figure1 – See Appendix 1 for full page picture). Big Grizzly Creek is tributary to the Middle Fork Feather River, which flows into Lake Oroville and thence to the lower Feather River, then into the Sacramento River, and then the Sacramento-San Joaquin Delta. Pike were previously successfully eliminated from both Frenchman Reservoir and Sierra Valley waterways (both tributary to the Middle Fork) by CDFG after illegal introductions into those bodies of water.

Within the Sacramento-San Joaquin Delta system, a number of fish species have life history stages and habitat preferences which make them vulnerable to pike predation. These include the state- and federally-listed out migrating juveniles of winter- and spring-run Chinook salmon, steelhead, and delta smelt. In addition to these species, other species of concern such as splittail and Sacramento perch may be detrimentally affected by pike. In these and other watersheds, in riverine, lake and reservoir environments, a variety of fish species, including stocked trout, are vulnerable. The threat of pike in the Sacramento-San Joaquin Delta system is recognized by the state and federal governments and stakeholders otherwise known as CALFED Bay Delta Program in its Strategic Plan for Ecosystem Restoration.

Based upon current knowledge of the physical and biological processes that influence the spread and impact of pike on aquatic ecosystems, the pike population in Lake Davis appears poised to have a serious and widespread negative impact on California's aquatic ecosystems. If the pike population is not eradicated, biological and physical processes will eventually result in the spread of the pike population to downstream locations. The risk of such a spread has steadily increased since 1999 as the pike population in Lake Davis has increased in numbers. The presence of even a single pike population in California increases the risk of both natural and human movement of this species to other watersheds in the state. Fortunately, because California's pike population is limited to the one currently contained in the Lake Davis area, there is a window of opportunity to eliminate the species from the state.

### **1.3 PROJECT OBJECTIVES**

The objective of the project is to eradicate pike from Lake Davis and its tributaries thus preventing their downstream spread and reducing the chances of pike being relocated to other California waters.

### **1.4 RECENT HISTORY**

Pike were first discovered in Lake Davis in 1994. A Final EIR was prepared and filed in January of 1997 as part of a program to eliminate pike from Lake Davis and its tributaries. In 1997, a chemical treatment was conducted to remove pike from Lake Davis and its tributary streams. Pike were rediscovered in Lake Davis in May 1999, about eighteen months after what appeared to be a successful rotenone treatment of the reservoir.

The discovery prompted a visit to Portola from then- CDFG Director Robert Hight, who discussed the issue with community leaders. CDFG opened a local Portola field office and at Mr. Hight's request, the Lake Davis Steering Committee (Steering Committee) (composed of private citizens and elected city and county officials from the local community, with participation from state and federal agencies) was formed to address the issue. Pike experts were brought in from Alaska, Colorado, Idaho, Minnesota, and Wisconsin to assess the situation. They concurred with CDFG that Lake Davis provided the necessary habitat for successful pike reproduction and the pike's presence could present a threat to the fishery of Lake Davis and also to other fisheries throughout California should the pike escape or be moved from the reservoir.

In February 2000, CDFG and the Steering Committee developed a management plan: "Managing Northern Pike at Lake Davis, A Plan for Y2000." This document can be viewed at (<http://www.dfg.ca.gov/northernpike/mgpike.html>). This document recommended strategies to suppress the pike population, contain it within Lake Davis, and to remove as many pike as possible from the reservoir. Recommendations included increased education, law enforcement,

netting, electrofishing and trapping, as well as an experimental method of using detonation cord. Since the spring of 2000, CDFG personnel have conducted extensive field work in an attempt to control the illegally introduced, invasive, non-native pike in Lake Davis. In September 2003, CDFG evaluated the previous 3 ½ years of pike removal. A summary of this information can be reviewed on the web at the following location:

([http://www.dfg.ca.gov/northernpike/history/summary\\_report.pdf](http://www.dfg.ca.gov/northernpike/history/summary_report.pdf)). Data indicated pike numbers continued to increase in spite of the concerted control efforts. Although all methods succeeded in removing some pike from the reservoir, none have proven effective in preventing a population increase. CDFG is currently continuing its pike removal efforts, and to date about 50,000 of the pike have been removed.

In December 2003, the Lake Davis Steering Committee sent a letter to the Secretary of Resources Mike Chrisman, requesting CDFG investigate methods to rid Lake Davis of the pike. Mr. Chrisman replied he was directing the CDFG to investigate methods of eliminating the pike from the reservoir. Protection of public health and addressing economic issues are important considerations in any decision to effectively deal with the pike.

In May of 2004, CDFG presented the community with a list of eradication options which had been suggested by various persons and/or agencies. The information in this document, entitled Lake Davis Northern Pike Eradication Options - May 24, 2004, can be viewed on the web at the following address: (<http://www.dfg.ca.gov/northernpike/history/options.pdf>). The document includes an evaluation of the options to determine their feasibility, effectiveness, and safety. This evaluation indicated that the use of formulated rotenone or a combination of formulated rotenone and rotenone powder combined with a significant drawdown of Lake Davis could be a feasible, effective and safe method for eradicating the pike. It further recommends that any such project if proposed by CDFG should be thoroughly evaluated pursuant to applicable environmental laws. It was determined that continuation of the current "Control and Containment" program was not a viable method for eradication. Throughout 2004, CDFG personnel continued to gather information regarding possible options.

On February 28, 2005, CDFG Director Ryan Broddrick met with the Lake Davis Steering Committee and various community members. Mr. Broddrick stated he was very pleased to see all the hard work and commitment of time from members of the community in working with the CDFG to solve a very complex issue. He reassured the community that CDFG would continue to work with them to solve this difficult and complex issue and is moving towards developing a plan to rid the reservoir of pike.

CDFG is taking several steps to build a solid foundation for proposing, planning and implementing a project. CDFG recently appointed a project manager. CDFG has also been coordinating with federal, state and local agencies that may have a role in reviewing, and/or providing permits or other approvals for various aspects of such a project to get their input early in the process. This will help CDFG prepare a well-thought-out project to eradicate pike from Lake Davis that addresses other agencies concerns. These agencies include, but are not limited to, the Plumas National Forest, Plumas County Environmental Health Department, the California Department of Health Services, and the Central Valley Regional Water Quality Control Board. It is important that any concerns and requirements of these and other agencies are understood by CDFG early in the planning process.

The proposed project will be analyzed and subjected to public review pursuant to CEQA and the National Environmental Policy Act (NEPA). CDFG and the Plumas National Forest intend to prepare a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the

proposed project. The public's first formal opportunity for input into the process will be during the scoping process. One or more public scoping meetings will be scheduled and noticed in the NOP and NOI. Thereafter, the public will have an opportunity to comment on the draft EIR/EIS. In addition to the environmental review, CDFG intends to conduct a separate economic analysis of the project. CDFG intends to hire an economic consultant to assist in this effort. The CDFG intends to involve the Lake Davis Steering Committee in the process. Any final decision by CDFG to go forward with any project will be made after certifying and considering the final EIR/EIS as well as considering the economic analysis. The target date for approval of any such project would be January 2007. Implementation would occur thereafter.

## **1.5 SETTING**

Lake Davis is located in Plumas County, California, at elevation 5,775 feet above sea level. Included in the project area are Lake Davis, all the tributaries in the watershed to Lake Davis, and Big Grizzly Creek below Lake Davis. These all occur in the upper reaches of the Middle Fork Feather River watershed in the Sierra Nevada Mountains (Figure 1). Lake Davis is a State Water Project reservoir that was first impounded in 1966-68 by the construction of Grizzly Valley Dam on Big Grizzly Creek. The reservoir is fed by three main tributaries, Big Grizzly, Freeman, and Cow Creeks. The total drainage area is about 44 square miles. Lake Davis has a surface area of 4,025 acres when full, a capacity of 84,371 acre-feet and an average depth of 21 feet. The deepest point of the reservoir is 108 feet, just upstream of Big Grizzly Dam. The reservoir is operated by the California Department of Water Resources (CDWR), and lies within the U.S. Forest Service Plumas National Forest.

Lake Davis water is used for recreation, irrigation, and for the benefit of fish and wildlife. It supports a trout fishery managed by CDFG. Lake Davis has been developed as a source of domestic water for the City of Portola and the Grizzly Lake Resort Improvement District (GLRID). The Plumas County water treatment plant, which treats Lake Davis water, was taken offline prior to the October 1997 chemical treatment as it did not meet regulatory standards, and continues to be offline pending improvements to the water treatment plant. Thus, neither entity currently uses Lake Davis as a water supply. Nearby residences depend on groundwater from private wells.

The two outlet structures at Grizzly Dam, one a 30 inch pipe and the other a 10 inch pipe, have a grating system installed across the mouth of the outlet which act as impingement bars to kill any fish passing through the outlet. This system appears to have successfully prevented any species of fish greater than 4 inches in length from passing through the outlet and surviving. However, the number of pike within the reservoir is increasing over time. CDFG personnel have been finding more pike and smaller pike closer to the dam as the population increases in the lake.

## **1.6 ALTERNATIVES**

The lead agencies, the Department and the U.S. Forest Service, are considering the Proposed Project / Preferred Alternative and a reasonable range of potentially feasible alternatives that would meet the project objective of eradicating pike from Lake Davis and its upstream tributaries. The following is a preliminary list of alternatives that may be analyzed in the draft EIR/EIS. Alternatives will be refined and additional alternatives may be identified during the scoping period and the development of the draft EIR/EIS. In addition, some of the proposed alternatives may be dropped from consideration when subjected to additional input and review.

### **1.6.1 Proposed Project / Preferred Alternative**

The Draft EIR/EIS will evaluate the environmental effects of a Proposed Project/Preferred Alternative involving the drawdown of Lake Davis to a volume of about 10,000-20,000 acre-feet. A liquid rotenone formulation would then be applied to eliminate pike.

The remaining water held in Lake Davis and any ponded water, and waters flowing into Lake Davis, from the headwaters of all tributaries, to the lake, or wetland areas, ponds, etc., adjacent to the flowing waters that are tributary to Lake Davis within its watershed would be treated with liquid rotenone at concentrations sufficient to eradicate the pike. It is anticipated at this time that the concentration of rotenone formulation used would be 2 ppm. The NEPA Preferred Alternative is to issue the required USFS permits needed to carry out the Proposed Project.

#### **1.6.1.1 Reservoir Drawdown**

Reservoir drawdown by the CDWR would commence immediately following the approval of the EIR/EIS. The average storage in Lake Davis on January 1 is approximately 60,000 acre feet at an elevation of 5,768 feet. CDWR personnel have examined and estimated drawdown capabilities for releases from Lake Davis using the 5700 foot elevation intake valve. This valve is located in Lake Davis about 100 feet upstream of the dam and about 10 feet above the bottom of the reservoir. Use of this valve would assist in preventing accidental flushing of pike during the drawdown process. Release capabilities range from approximately 190 cubic feet per second (cfs) at a storage elevation of 60,000 acre-feet to 170 cfs at 10,000 acre-feet (elevation 5,745 feet). CDWR estimates the reservoir can be drawn down to 10,000 to 20,000 acre-feet by the first of September in dry, average and most wet water years. Examination of inflow records for Lake Davis over the 37 years of record indicated the reservoir could be lowered to 20,000 acre-feet by September 1 in 29 of the 37 years or 78 percent of the time when the reservoir contains 60,000 acre-feet on January 1.

If an extremely wet water year occurs during the drawdown process, additional water may be pumped past the dam using a large diesel or electric pumping system with screened intakes. Screening would be designed by engineers working with biologists familiar with pike biology to minimize the potential for pike entering the pumping system.

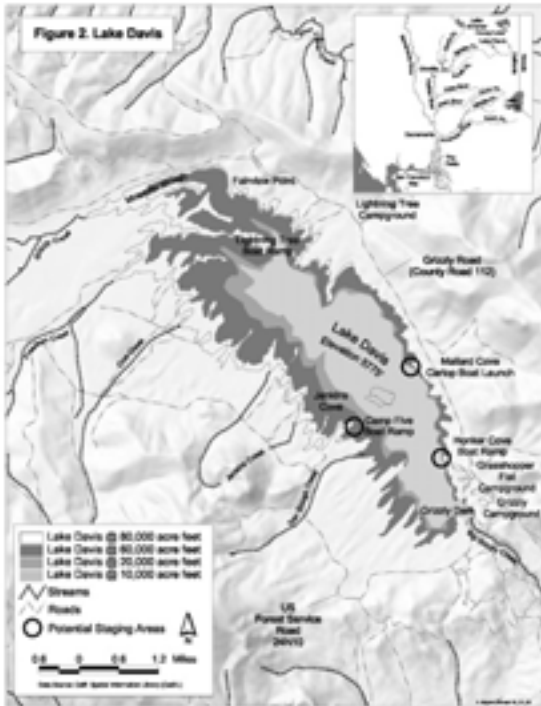
#### **1.6.1.2 Containment Structures**

Lowering the reservoir to 10,000 to 20,000 acre-feet could increase the risk of accidental flushing of pike (including eggs and larvae) through the outlet. Project personnel are currently investigating possible screening modifications to determine if a device capable of further reducing the potential for pike to move downstream is feasible and allowable. In addition, CDFG would monitor juvenile pike growth during drawdown and evaluate the need for any additional containment devices to keep pike in the reservoir for the chemical treatment. It may be possible to limit the drawdown to a time of year when the existing containment structure is adequate.

Containment options will be more fully developed after input from on-going studies is received and analyzed, and public input is received from the scoping process. Any proposed containment option and feasible alternatives will be discussed in further detail in the EIR/EIS.

## Rotenone Application

A liquid formulation of rotenone that is registered for use in California will be proposed. Potential staging areas on USFS land for possible storage of equipment, materials, supplies, access, etc. used during the treatment and access to the lake could occur at Honker, Mallard, Camp 5 Coves, or at all sites (Figure 2 – See Appendix 1 for full page picture).



Rotenone would be applied to water in Lake Davis by means of boats, rafts or other floatation devices. Residual pools on the lake bottom would be treated with rotenone from boats or shore depending on the size, volume, and based on the expertise of the person in charge of the treatment. Rotenone would be applied to flowing waters by means of drip stations and hand-type spray bottles, hand-type sprayers, backpack sprayers or other similar devices. In addition, some areas could be sprayed by aerial application (helicopter). Aerial spraying would be considered primarily for wet seep areas that would be hard to spray using other methods, or where large open areas or marsh-like areas may exist. Small pockets of water along the streams or where the streams may become intermittent would be sprayed by hand if feasible. In the case of residual lake-bottom pools or small ponded areas found on tributaries, the use of ATV-mounted sprayers could be considered and utilized with U.S. Forest Service approval. This will be discussed in greater detail in the EIR/EIS. All applications would be conducted according to

label directions and all required safety measures would be adhered to as part of this project. The treatment would be conducted under the on-site supervision of a person that possesses a Qualified Applicator Certificate issued by the Department of Pesticide Regulation.

The chemical treatment would be carried out under Department guidelines for rotenone treatment. It would incorporate the best management practices as specified in the Programmatic Environmental Impact Report entitled Rotenone Use for Fisheries Management or subsequent updates to that document or "Rotenone Use in Fisheries Management; Administrative and Technical Guidelines Manual" published by the American Fisheries Society. This treatment would include a site safety plan in order to protect human health and safety.

### 1.6.1.3 Neutralization

Neutralization methods currently being investigated are: 1) Shutting off the dam outlet valves and allowing rotenone to break down naturally within the reservoir; 2) releasing flows from the dam and neutralizing the rotenone with potassium permanganate; 3) releasing minimal flows at the dam and filtering out rotenone formulation constituents with a granular activated carbon filter.

The exact methods to be proposed and how the neutralization would be accomplished will depend, in part, on information that is gathered later this summer and from comments received during the scoping and public comment processes. This will be discussed in further detail in the EIR/EIS.

## **1.6.2 Other Alternatives**

In accordance with Section 15126.6 of the State CEQA Guidelines, an EIR must “describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives.” The list and nature of alternatives to be analyzed in the EIR/EIS may be altered based on input received from responsible agencies and the public during scoping.

Several alternatives are currently being considered, as summarized in the sections that follow.

### **1.6.2.1 Completely dewater reservoir**

This alternative would involve the complete dewatering of Lake Davis using existing dam outlets and pumps, piping and/or siphons. Structures may be installed to prevent flushing of any pike (including eggs, larvae and juveniles). Flowing water would be diverted via a pipe or dammed with a series of check dams, and water remaining in resulting ponds would be removed using pumps and screens. Diverted water would have to be handled in some manner to ensure that pike did not live and eventually get introduced into other waters.

### **1.6.2.2 Draw down reservoir to minimum pool and use liquid rotenone**

Draw down Lake Davis to a minimum pool of about 90 acre-feet (surface elevation 5,700 feet above sea level). This would result in a reservoir surface area of about 25 acres. The remaining volume of about 90 acre feet and all remaining flowing waters would be treated with liquid rotenone. Application would take place during the summer or fall.

### **1.6.2.3 Draw Reservoir Down to 48,000 Acre-Feet and Eradicate with Liquid Rotenone**

Draw down Lake Davis to a volume of 48,000 acre-feet (surface elevation 5,767 feet above sea level). The standing water and all remaining flowing waters would be treated with liquid rotenone in summer or fall.

### **1.6.2.4 No Action**

Under this proposal, the CDFG would not attempt to eradicate the pike from Lake Davis. The current management plan would continue to attempt to suppress the Lake Davis pike population.

## **1.7 PROBABLE ENVIRONMENTAL EFFECTS OF THE PROJECT**

In accordance with CEQA, the EIR/EIS will address significant and potentially significant environmental effects of the proposed project as identified in the Initial Study. In addition, in accordance with NEPA, the EIR/EIS will address any other effects that are required by NEPA to be analyzed.

## **1.8 AGENCY REVIEW AND APPROVALS AND STAKEHOLDER COORDINATION**

The CDFG may coordinate with, or seek permits and approvals, from the following agencies, or other entities it determines as the project progresses. In addition, the CDFG will continue to work with the Steering Committee and the community.

- U.S. Fish and Wildlife Service (Endangered Species Act Consultations)
- U.S. Forest Service (Special Use Permit, Pesticide Use Permit and/or Forest Closure Order)
- Central Valley Regional Water Quality Control Board (possible Waste Discharge Requirements)
- California Department of Health Service (Certification of use of substance in drinking water supply)
- California Department of Water Resources
- Office of Emergency Health Hazard Assessment
- California Department of Pesticide Regulation
- Northern Sierra Air Quality Management District
- California Department of Food and Agriculture (Plumas County Agricultural Commissioner)
- California Highway Patrol
- CalTrans
- Plumas County (Environmental Health Department, Public Health Officer, Sheriff Department)
- City of Portola
- Grizzly Lake Resort Improvement District
- California Environmental Protection Agency